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001218 7590 03/15/2004
CASELLA & HESPOS
274 MADISON AVENUE
NEW YORK, NY 10016

EXAMINER	
TA, THO DAC	
ART UNIT	PAPER NUMBER
2833	
DATE MAILED: 03/15/2004	

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,407	10/14/2003	Hiroshi Nakano	FP03-029US	6845

TITLE OF INVENTION: CONNECTOR

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1330	\$300	\$1630	06/15/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

If the SMALL ENTITY is shown as NO:

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B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

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001218 7590 03/15/2004

**CASELLA & HESPOS
274 MADISON AVENUE
NEW YORK, NY 10016**

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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EXAMINER	ART UNIT	CLASS-SUBCLASS
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TA, THO DAC	2833	439-752000
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1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent); ☐ individual ☐ corporation or other private group entity ☐ government

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- ☐ Issue Fee
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- ☐ Advance Order - # of Copies _____

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- ☐ A check in the amount of the fee(s) is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

Director for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature)	(Date)
<p>NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.</p> <p>This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Alexandria, Virginia 22313-1450.</p> <p>Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.</p>	

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CASELLA & HESPOS 274 MADISON AVENUE NEW YORK, NY 10016			TA, THO DAC	
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			2833	
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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

4

Notice of Allowability	Application No.	Applicant(s)	
	10/686,407	NAKANO, HIROSHI	
	Examiner	Art Unit	
	Tho D. Ta	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to interview summary dated 3/4/04.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ The drawings filed on 14 October 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Gerald E. Hespos on 03/04/04.

2. The application has been amended as follows:

1. (Amended) A connector, comprising:

a housing [(11)] with cavities [(12)] for accommodating terminal fittings [(T)], the cavities [(12)] being arranged over a longer distance in a widthwise direction[(WD)] than in height direction [(HD)], a retainer mount hole [(16)] formed in the housing [(11)] and communicating with the cavities [(12)], a recess [(14)] formed in [a] an outer surface of the housing [(11)] at an intermediate position along the widthwise direction [(WD)], the recess [(14)] having opposite side surfaces [(14S)], the cavities [(12)] being arranged at fewer stages in a widthwise areas of the housing [(11)] corresponding to the recess [(14)] than in other neighboring areas;

a lock arm [(13)] formed in the recess [(14)] of the housing [(11)] for locking the connector [(10)] and a mating connector together;

a retainer [(21)] mountable into the retainer mount hole [(16)] for movement from a first position where insertion of the terminal fittings [(T)] into the cavities [(12)] is permitted to a second position where the terminal fittings [(T)] are locked in the cavities [(12)], the retainer [(21)] having an intermediate portion [(24)] overlapping the opposite side surfaces [(14S)] of the recess [(14)] when the retainer [(21)] is at the second position;

locking means [(17; 23a)] at opposite sides [(23)] of the retainer [(21)] for locking the retainer [(21)] at the second position; and

engaging means [(28; 28a, 28b)] for locking the intermediate portion [(24)] of the retainer [(21)] to the side surfaces [(14S)] of the recess [(14)].

2. (Amended) The connector of claim 1, wherein the retainer [(21)] includes partition walls [(25, 25A)] insertable between the respective cavities [(12)] on opposite sides of the intermediate portion [(24)].

3. (Amended) The connector of claim 1, wherein the retainer mount hole [(16)] is in a bottom surface of the housing [(11)] and extends in the widthwise direction [(WD)].

4. (Amended) The connector of claim 3, wherein the second position is reached by inserting the retainer [(21)] deeper in a mounting direction [(MD)] so that locking sections [(27)] of the retainer [(21)] hold the terminal fittings [(T)].

5. (Amended) The connector of claim 3, wherein the lock arm [(13)] is at a widthwise middle position on the upper surface of the housing [(11)].

6. (Amended) The connector of claim 3, wherein the recess [(14)] is formed in an upper surface of the housing [(11)] and extends toward the bottom surface of the housing [(11)].

7. (Amended) The connector of claim 1, wherein the engaging means [(28; 28a, 28b)] include locking projections [(28a)] on partition walls [(25A)] of the intermediate portion [(14)] and slits [(28b)] in the opposite sides [(14S)] of the recess [(14)], the locking projections [(28a)] being resiliently engaged with the slits [(28b)] when the retainer [(21)] is at the second position.

8. (Amended) The connector of claim 7, wherein the slits [(28b)] communicate with the retainer mount hole [(16)] and clearances [(14a)] being defined between the lock arm [(13)] and the side surfaces [(14S)].

9. (Amended) The connector of claim 1, wherein the retainer [(21)] has a plurality of partition walls [(25)] coupled into a lattice shape by coupling plates [(26)] at substantially opposite sides.

10. (Amended) A connector, comprising:

a housing [(11)] with opposite front and rear ends, opposite top and bottom surfaces and opposite first and second sides, a recess [(14)] formed in the top surface of the housing [(11)], a first plurality of cavities [(12)] between the recess [(14)] and the first side of the housing [(11)] and a second plurality of cavities [(12)] between the recess [(14)] and the second side of the housing [(11)], the cavities [(12)] extending between the front and rear ends of the housing [(11)] and being configured for accommodating terminal fittings [(T)], a retainer mount hole [(16)] formed in the bottom surface of the housing [(11)] and communicating with the cavities [(12)], first and second engaging portions [(17)] formed at the first and second sides of the housing [(11)] and aligned with the retainer mount hole [(16)], at least one recess lock [(28b)] formed at the recess [(14)] and aligned with the retainer mount hole [(16)];

a lock arm [(13)] formed in the recess [(14)] of the housing [(11)] for locking the connector [(10)] and a mating connector together;

a retainer [(21)] mounted in the retainer mount hole [(16)] for movement from a first position where insertion of the terminal fittings [(T)] into the cavities [(12)] is permitted to a second position where the terminal fittings [(T)] are locked in the cavities [(12)], first and second side locks [(23a)] at opposite sides [(23)] of the retainer [(21)] for engaging the first and second engaging portions [(17)] when the retainer [(21)] at the second position, an intermediate portion [(24)]

Art Unit: 2833

nesting over the recess [(14)] when the retainer [(21)] is at the second position, the intermediate portion [(24)] having at least one intermediate lock [(28a)] for engaging the recess lock [(28b)] when the retainer [(21)] is at the second position.

11. (Amended) The connector of claim 10, wherein the housing [(11)] has two retainer locks [(28b)] and the retainer [(21)] has two intermediate locks [(28a)].

12. (Amended) The connector of claim 11, wherein the recess locks [(28b)] are slots formed in side surfaces [(14S)] defining the recess [(14)].

13. (Amended) The connector of claim 12, wherein the intermediate locks [(28a)] are projections that engage in the slots when the retainer [(21)] is in the second position.

14. (Amended) The connector of claim 13, wherein the first and second pluralities of cavities [(12)] are substantially equal in number.

15. (Amended) The connector of claim 14, wherein the first and second pluralities of cavities [(12)] define an upper stage of cavities [(12)], the housing [(11)] further comprising a lower stage of cavities [(12)] between the bottom

Art Unit: 2833

surface and the housing [(11)] and both the upper stage of cavities [(12)] and the recess [(14)].

16. (Amended) The connector of claim 10, wherein the lock arm [(13)] is formed unitarily with the housing [(11)].

3. The following is an examiner's statement of reasons for allowance: the prior art fails to provide, teach or suggest the retainer having an intermediate portion overlapping the opposite side surfaces of the recess when the retainer is at the second position, and the intermediate portion having at least one intermediate lock for engaging the recess lock when the retainer is at the second position.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho D. Ta whose telephone number is (571) 272-2014. The examiner can normally be reached on M-F (8:00-5:30).

Art Unit: 2833

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (571) 272-2800 ext 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



THO D. TA
PRIMARY EXAMINER

tdt
03/04/04